

**REMARKS**

Claims 1-3, 6-17, 20-22, 24-26, 29-31, 39-53, 55-60, 62, 63, 65, 66, 68, and 69 were presented for examination, claims 4, 5, 18, 19, 23, 27, 28, 32-38, 54, 61, 64, 67 and 70-74 having been previously canceled. In the above amendment, Applicants now cancel claims 7, 9, 10, 29, 30, 53, 57, 58, 62, 63, 65, and 66 herein without prejudice to filing the same or similar claims in a future divisional or continuation application. Of the remaining claims, claims 1, 44, 55, and 68 are independent. Applicants amend claims 1, 6, 8, 24, 25, 43, 44, 50, 55, 62, and 68 herein. No new matter has been added.

In the above amendments, the subject matter of canceled claim 7 was added to dependent claim 6. The subject matter of canceled claim 57 was added to independent claim 55, and the subject matter similar to that of canceled claim 65 was added to independent claim 1.

Applicants thank the Examiner for the courtesy of an interview on October 17, 2008. During the Interview, the Examiner suggested a number of potential claim amendments. Applicants have incorporated the Examiner's suggestions into the present Response.

**I. Rejections under 35 U.S.C. §102(b)**

Claims 1-3, 6-17, 20-22, 25, 26, 29-31, 43-48, 50-53, 55-60, 62, 63, 65, 66, 68 and 69 stand rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,944,686 to Patterson et al. (hereafter "Patterson"). Claims 1, 44, 55, 62 and 68 are independent. Applicants respectfully traverse the rejection.

For ease of discussion, each related claim set is discussed separately below.

Patterson is directed to an instrument for delivering a variable pressure stream of fluid as a coherent jet. (Patterson at Abstract). A deflector may be provided opposite the orifice to transform the jet stream into a harmless spray. (Patterson at Abstract). In contrast, the claimed invention describes a system in which *a non-liquid component*, such as a cutting blade or grinding burr, is employed to perform an excision (Application at [0054]).

As discussed below, Patterson does not anticipate claims 1-3, 5-17, 20-22, 25, 26, 29-31, 43-48, 50-53, 55-60, 62, 63, 65, 66, 68 and 69.

**A. Claims 1, 2, 3, 5-17, 20-22, 25, 26, 29-31 and 43**

Applicants respectfully submit that Patterson does not disclose at least the following elements of claim 1: (1) *an evacuation lumen located between the nozzle and the proximal end of the instrument in the axial direction, comprising a jet-receiving opening located opposite the nozzle to receive at least a portion of the liquid jet emitted from the nozzle;* (2) *a non-liquid jet tissue-excision component constructed and positioned at the distal end of the instrument to excise tissue during the surgical procedure;* (3) *that the non-liquid jet tissue-excision component is located substantially opposite the jet-receiving opening and extending radially outward from a location defined by an axial center of the nozzle to a radial periphery having a sharpened edge;* and (4) *that the nozzle is positioned between the jet-receiving opening and a portion of the non-liquid jet tissue-excision component so that, during operation of the instrument, the liquid jet is directed so as to contact tissue excised by the non-fluid jet tissue-excision component during a surgical procedure.*

Claim 1 as amended recites *an evacuation lumen located between the nozzle and the proximal end of the instrument in the axial direction, comprising a jet-receiving opening located opposite the nozzle to receive at least a portion of the liquid jet emitted from the nozzle.* As the Examiner pointed out during the October 17 Interview, the opening for the evacuation lumen in Patterson is not *located opposite the nozzle to receive at least a portion of the liquid jet emitted from the nozzle.* Instead, the opening of lumen 24 in Patterson is collocated with the nozzle, such that the liquid jet is emitted from the nozzle, contacts a deflector 36, and then returns in the direction of the nozzle into the opening of lumen 24.

During the interview, the Examiner suggested that the deflector of Patterson, which the liquid jet contacts, might be considered part of the “evacuation lumen.” However, the deflector of Patterson is not a *lumen*. A lumen is a “cavity of a tubular organ” (Random House Unabridged Dictionary, 2006). In the present Application, the lumen is a tubular structure located opposite the nozzle, which receives the liquid jet. In Patterson, the deflector is not a part of a tubular structure – it is exposed on most sides in

order to allow the liquid jet to cut into bone, cartilage, or tissue. Further, Patterson draws a *distinction* between the central lumen 24 and the deflector 36.

Further, Patterson does not disclose *a non-liquid jet tissue-excision component constructed and positioned at the distal end of the instrument*. The Examiner points to “sharpened edge 40” of Patterson as the non-liquid jet tissue excision component. However, as shown in Patterson at Figure 2, the sharpened edge 40 is not located “at the distal end of the instrument,” as recited in amended claim 1. Instead, the sharpened edge 40 is located *between* the distal and the proximal ends of the instrument.

Moreover, Patterson does not disclose *the non-liquid jet tissue-excision component is located substantially opposite the jet-receiving opening and extending radially outward from a location defined by an axial center of the nozzle to a radial periphery having a sharpened edge*, as recited in amended independent claim 1. As noted above, the Examiner points to “sharpened edge 40” of Patterson as the non-liquid jet tissue excision component. However, the “sharpened edge 40” is not at *a radial periphery* of the non-liquid jet tissue-excision component. In the present Application, the sharpened edge extends radially beyond the nozzle. For example, as described in paragraphs [0053] and [0055], the non-liquid jet tissue-excision component may be attached to the distal end of the instrument, beyond the nozzle, and include one or more sharpened edges. This allows tissue to be excised at the outer radial edge of the tissue excision component, and then the tissue may be directed into the liquid jet to be carried away from the surgical site through the evacuation lumen.

In contrast, sharpened edge 40 of Patterson is designed to “allow the surgeon to create an *incision* with the instrument.” (Patterson at col. 1, lines 27-28). To this end, sharpened edge 40 extends *axially* from the outside of the deflector. As shown in Patterson at Figure 2, the tissue excision component does not *extend radially outward from a location defined by an axial center of the nozzle to a radial periphery having a sharpened edge*, as recited in independent claim 1.

Still further, amended claim 1 recites that *the nozzle is positioned between the jet-receiving opening and a portion of the non-liquid jet tissue-excision component so that,*

*during operation of the instrument, the liquid jet is directed so as to contact tissue excised by the non-fluid jet tissue-excision component during a surgical procedure.* In Patterson, the nozzle is not located between the jet receiving opening and a portion of the non-liquid jet tissue excision component. The sharpened edge of Patterson is located on the *bottom* of the instrument, and so the nozzle is not between the sharpened edge and the jet-receiving opening.

In light of the foregoing remarks, Applicants respectfully submit that Patterson does not disclose each and every element of claim 1. Claims 2, 3, 6, 8, 11-17, 20-22, 25, 26, 29-31 and 43 depend from claim 1 and therefore include each and every element of claim 1. Thus, Patterson does not disclose each and every element of claims 2, 3, 6, 8, 11-17, 20-22, 25, 26, 31, and 43. Therefore, Applicants respectfully request that the 35 U.S.C. §102(b) rejection of claims 2, 3, 6, 8, 11-17, 20-22, 25, 26, 31, and 43 be reconsidered and withdrawn.

As claims 7, 9, 10, 29, and 30 are canceled herein, Applicant respectfully submits that the rejection of these claims is moot.

#### B. Claims 44-48 and 50-53

Amended independent claim 44 recites, among other features, (1) *a scissors-like handle located at the proximal end, wherein the handle moves a component of the distal end of the instrument to effect tissue manipulation when the handle is squeezed;* and (2) *an evacuation lumen located between the nozzle and the proximal end of the instrument, the evacuation lumen comprising a jet-receiving opening located opposite the nozzle to receive at least a portion of the liquid jet emitted from the nozzle, when the instrument is in operation, and which is configured and positioned to convey a flow of liquid away from the jet-receiving opening.* Patterson does not anticipate claims 44-48 and 50-52.

Applicants amend claim 44 to recite *a scissors-like handle located at the proximal end, wherein the handle moves a component of the distal end of the instrument to effect tissue manipulation when the handle is squeezed.* Patterson does not disclose this feature of claim 44.

In fact, Patterson is silent as to a scissors-like handle that effects tissue manipulation when the handle is squeezed.

Further, Patterson does not disclose *an evacuation lumen located between the nozzle and the proximal end of the instrument, the evacuation lumen comprising a jet-receiving opening located opposite the nozzle to receive at least a portion of the liquid jet emitted from the nozzle, when the instrument is in operation, and which is configured and positioned to convey a flow of liquid away from the jet-receiving opening*. The Examiner points to element 36 of Patterson as a “jet-receiving opening.” Applicants respectfully disagree. Element 36 is a solid deflector which dissipates the jet (Patterson at col. 1 lns. 50-54). As noted above, element 36 is not part of a *lumen*. Further, as the Examiner pointed out during the October 17 Interview, the opening for the evacuation lumen in Patterson is not *located opposite the nozzle to receive at least a portion of the liquid jet emitted from the nozzle*. Instead, the opening of lumen 24 in Patterson is collocated with the nozzle, such that the liquid jet is emitted from the nozzle, contacts a deflector 36, and then returns in the direction of the nozzle into the opening of lumen 24.

In light of the foregoing remarks, Applicants respectfully submit that Patterson does not disclose each and every element of claim 44. Claims 45-48 and 50-52 depend from claim 44 and therefore include each and every element of claim 44. Thus, Patterson does not disclose each and every element of claims 45-48 and 50-52. Therefore, Applicants respectfully request that the 35 U.S.C. §102(b) rejection of claims 44-48 and 50-52 be reconsidered and withdrawn.

As claim 53 is canceled herein, Applicants respectfully submit that the rejection of claim 53 is moot.

### C. Claims 55-60

Claim 55 recites, among other things, (1) *a non-liquid jet tissue-excision component constructed and positioned to excise tissue during a surgical procedure, wherein the non-liquid jet tissue-excision component comprises a cup-shaped tissue receptacle having a sharpened peripheral rim located at the distal end of the instrument*; and (2) *a nozzle located*

*at the distal end of the instrument that is shaped to form a liquid jet and is positioned to direct the liquid jet towards the proximal end of the instrument so that at least a portion of the liquid jet is contained within the cup-shaped tissue receptacle, when the instrument is in operation.*

Patterson does not disclose these features of claim 55.

Claim 55 as amended recites that *the non-liquid jet tissue-excision component comprises a cup-shaped tissue receptacle having a sharpened peripheral rim located at the distal end of the instrument.* In Patterson, the non-liquid jet tissue-excision component, which the examiner identifies as “sharpened edge 40,” does not comprise a cup-shaped tissue receptacle having a sharpened peripheral rim located at the distal end of the instrument. Element 40 is an “edge,” and is not a cup-shaped tissue receptacle.

Claim 55 further recites *a nozzle located at the distal end of the instrument that is shaped to form a liquid jet and is positioned to direct the liquid jet towards the proximal end of the instrument so that at least a portion of the liquid jet is contained within the cup-shaped tissue receptacle, when the instrument is in operation.* The nozzle in Patterson is located near the proximal end of the instrument and conveys a liquid jet from the proximal end of the instrument to the distal end. Claim 55 recites the opposite: that the nozzle is located at the *distal* end and conveys the liquid jet toward the *proximal* end.

In light of the foregoing remarks, Applicants respectfully submit that Patterson does not disclose each and every element of claim 55. Claims 56 and 59-60 depend from claim 55 and therefore include each and every element of claim 55. Thus, Patterson does not disclose each and every element of claims 56 and 59-60. Therefore, Applicants respectfully request that the 35 U.S.C. §102(b) rejection of claims 55-56 and 59-60 be reconsidered and withdrawn.

As claims 57 and 58 are canceled herein, Applicants respectfully submit that the rejection of these claims is moot.

**D. Claims 62, 63, 65 and 66**

Claims 62, 63, 65, and 66 are canceled herein. Therefore, Applicants respectfully submit that the rejection of these claims is moot.

**E. Claims 68 and 69**

Claim 68 recites, among other things, (1) *a curette device*; and (2) *a nozzle located at the distal end of the instrument that is shaped to form a liquid jet and positioned to direct the liquid jet towards the proximal end of the instrument*.

Patterson does not disclose *a curette device*. The Examiner states, at page 6 of the Office Action, that “Applicant acknowledges Patterson discloses a sharpened edge 40. Thus, the device is capable of incising or excising tissue and may be interpreted as a curette.” Applicants respectfully disagree with this interpretation of a “curette.” A curette is defined as “a scoop-shaped surgical instrument for removing tissue from body cavities” (Random House Unabridged Dictionary, 2006). Therefore, not everything with a “sharpened edge” constitutes a curette. Patterson is silent regarding a *curette device*.

Further, amended claim 68 recites *a nozzle located at the distal end of the instrument that is shaped to form a liquid jet and positioned to direct the liquid jet towards the proximal end of the instrument*. As noted above in the discussion of claim 55, Patterson does not disclose a nozzle that conveys a liquid jet from the distal end to the proximal end of the instrument. In fact, Patterson discloses the opposite.

Therefore, Applicants respectfully submit that Patterson does not disclose each and every element of claim 68. Claim 69 depends from claim 68 and therefore includes each and every element of claim 68. Thus, Patterson does not disclose each and every element of claim 69. In light of the above remarks, Applicants respectfully request that the 35 U.S.C. §102(b) rejection of claims 68 and be reconsidered and withdrawn.

**II. Rejections under 35 U.S.C. §103(a)**

Claims 1-3, 6-17, 20-22, 24-26, 29-31, 39-53, 55-60, 62, 63, 65, 66, 68 and 69 stand rejected under 35 U.S.C. §103(a) as being unpatentable over WO 00/69348 to Moutafis et al. (hereafter “Moutafis”) in view of Patterson. Applicants respectfully traverse the rejection.

Moutafis, commonly assigned and having common inventors with Patterson, describes a surgical instrument similar in operation to Patterson.

**A. Claims 1, 2, 3, 4-17, 20-22, 24-26, 29-31 and 39-43**

The Examiner recognizes that Moutafis does not include a non-liquid jet tissue-cutting component. (Office Action at page 4). The Examiner cites Patterson for bridging the factual deficiencies of Moutafis. As discussed above in connection with the rejections under 35 U.S.C. §102(b), Patterson does not disclose (1) *a non-liquid jet tissue-excision component constructed and positioned at the distal end of the instrument to excise tissue during the surgical procedure*; (2) that *the non-liquid jet tissue-excision component is located substantially opposite the jet-receiving opening and extending radially outward from a location defined by an axial center of the nozzle to a radial periphery having a sharpened edge*; and (3) that *the nozzle is positioned between the jet-receiving opening and a portion of the non-liquid jet tissue-excision component so that, during operation of the instrument, the liquid jet is directed so as to contact tissue excised by the non-fluid jet tissue-excision component during a surgical procedure*, which are present in claim 1.

Therefore, Patterson fails to bridge the factual defeciencies of Moutafis. Moutafis and Patterson, alone or in combination, do not disclose, teach, or suggest each and every element of claim 1. Claims 2, 3, 6, 8, 11-17, 20-22, 24-26, 31 and 39-43 depend from claim 1 and, as such, include each and every element of claim 1. Therefore, Moutafis and Patterson do not disclose or suggest each and every element of claims 2, 3, 6, 8, 11-17, 20-22, 24-26, 31 and 39-43. Applicants respectfully request that the 35 U.S.C. §103(a) rejection of claims 1, 2, 3, 6, 8, 11-17, 20-22, 24-26, 31 and 39-43 be reconsidered and withdrawn.

As claims 7, 9, 10, 29, and 30 are canceled herein, Applicant respectfully submits that the rejection of these claims is moot.

**B. Claims 44-53**

Claim 44 recites *a scissors-like handle located at the proximal end, wherein the handle moves a component of the distal end of the instrument to effect tissue manipulation when the handle is squeezed*. Neither Moutafis nor Patterson disclose or suggest such a handle. Therefore, Patterson fails to bridge the factual deficiencies of Moutafis. Moutafis and Patterson, alone or in combination, do not disclose, teach, or suggest each and every element of claim 44. Claims 45-52 depend from claim 44 and, as such, include each and every element of claim 44. Therefore, Moutafis and Patterson do not disclose or suggest each and every element of claims 45-52. Applicants respectfully request that the 35 U.S.C. §103(a) rejection of claims 44-52 be reconsidered and withdrawn.

As claim 53 is canceled herein, Applicants respectfully submit that the rejection of claim 53 is moot.

**C. Claims 55-60**

Claim 55 recites (1) *a non-liquid jet tissue-excision component constructed and positioned to excise tissue during a surgical procedure, wherein the non-liquid jet tissue-excision component comprises a cup-shaped tissue receptacle having a sharpened peripheral rim located at the distal end of the instrument*; and (2) *a nozzle located at the distal end of the instrument that is shaped to form a liquid jet and is positioned to direct the liquid jet towards the proximal end of the instrument so that at least a portion of the liquid jet is contained within the cup-shaped tissue receptacle, when the instrument is in operation*. Neither Moutafis nor Patterson disclose, teach or suggest the quoted features of claim 55.

As discussed above, the Examiner recognizes that Moutafis does not include a non-liquid jet tissue-cutting component. As discussed above, Patterson also does not disclose *a non-liquid jet tissue-excision component constructed and positioned to excise tissue during a surgical procedure, wherein the non-liquid jet tissue-excision component comprises a cup-shaped*

*tissue receptacle having a sharpened peripheral rim located at the distal end of the instrument*, which is present in claim 55.

Further, Applicants amend claim 55 to recite that the *cup-shaped tissue receptacle has a sharpened peripheral rim located at the distal end of the instrument*, and that *at least a portion of the liquid jet is contained within the cup-shaped tissue receptacle, when the instrument is in operation*. Applicants respectfully submit that this clarifies what is meant by the “cup-shaped tissue receptacle.” The cited element 140 of Moutafis does not constitute a *cup-shaped tissue receptacle having a sharpened peripheral rim located at the distal end of the instrument*, and therefore, the liquid jet is never contained within the cup-shaped tissue receptacle.

Therefore, Patterson fails to bridge the factual deficiencies of Moutafis. Moutafis and Patterson, alone or in combination, do not disclose, teach, or suggest each and every element of claim 55. Claims 56 and 59-60 depend from claim 55 and, as such, include each and every element of claim 55. Therefore, Moutafis and Patterson do not disclose or suggest each and every element of claims 56 and 59-60. Applicants respectfully request that the 35 U.S.C. §103(a) rejection of claims 55-56 and 59-60 be reconsidered withdrawn.

As claims 57 and 58 are canceled herein, Applicants respectfully submit that the rejection of these claims is moot.

#### D. Claims 62, 63, 65 and 66

Claims 62, 63, 65, and 66 are canceled herein. Therefore, Applicants respectfully submit that the rejection of these claims is moot.

#### E. Claims 68 and 69

Claim 68 recites *a curette device*. Neither Patterson nor Moufatis discloses *a curette device*. (see §II.D, *supra*). As noted above, a curette device requires more than a “sharpened edge.” Both Patterson and Moutafis are silent as to this element of claim 68.

Therefore, Applicants respectfully submit that Patterson and Moufatis, alone or in combination, do not disclose, teach, or suggest each and every element of claim 68.

Claim 69 depends from claim 68, and as such includes each and every element of claim 68. In light of the above remarks, Applicants respectfully request that the 35 U.S.C. §103(a) rejection of claims 68 and 69 be reconsidered and withdrawn.

**CONCLUSION**

In view of the above amendment, Applicants believe that the pending application is in condition for allowance. If the Examiner feels that there are any remaining issues, the Examiner is urged to call the Applicants' attorney at the phone number listed below.

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Respectfully submitted,

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